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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,408	10/28/2003	Venkat Rangan	112-0122US	5639

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EXAMINER

SUN, SCOTT C

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,408

Applicant(s)

RANGAN ET AL.

Examiner

Scott Sun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 10-12, 19-21, 28-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto (US PUB 2002/0152339 A1).

As per claim 1, Yamamoto discloses a storage processing device, comprising an input/out module including:

Port processors to receive and transmit network traffic; (paragraph 22)

And a switch coupling said port processors; (paragraph 20, 23)

And a control module coupled to said input/output module, said input/output module and said control module being configured to interactively support data migration. (paragraph 21)

As per claim 2, Yamamoto discloses the storage processing device of claim 1, wherein said port processors include table information related to data migration

and wherein said control module is coupled to said table information to maintain said table information for data migration (paragraph 29)

As per claim 3, Yamamoto discloses the storage processing device of claim 2, wherein said table information includes a barrier entry and said port processors delay data write operations if said barrier entry relates to said data write operation (paragraph 29, line 20, paragraphs 35-39)

As per claims 10-12, 19-21 and 28-30, the examiner finds these claims different from claims 1-3 only in statutory category. The references and reasons cited for rejection of claim 1-3 apply in the same manner as applied to claim 1-3. A further note is made regarding claims 10 and 19, the limitation of "at least one host and at least two storage devices" is also disclosed by Yamamoto (paragraph 17)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-9, 13-18, 22-27, and 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama as applied to claims 1-3, 10-12, 19-21, 28-30 above, and further in view of Arakawa et al. (US Patent #6,895,415).

As per claim 4, Arakawa discloses table information includes an entry related to the extents in the data snapshot, said entry defining an extent operation type (Figure 22)

As per claim 5, Arakawa discloses table information further includes a legend entry for each extent operation type defining snapshot operations for the extent (Figure 22)

As per claim 6, Arakawa discloses table information further includes entries referenced by said legend entry defining physical extent location (Figure 22)

As per claim 7, Arakawa discloses legend entries include entries indicating data not migrated, data migrated, and a barrier entry for data being migrated. (Figure 22, Column 8, lines 28-31, Column 10, lines 36-41, Column 11, lines 5-11)

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As per claim 8, Arakawa discloses port processors delay data write operations if said barrier entry relates to said data write operation. (Column 11, lines 5-11)

As per claim 9, Arakawa discloses control module provides commands to copy data and places said barrier entry for said data being copied. (Column 11, lines 5-11)

Kodama's invention and Arakama's invention are analogous art because they are from the same field of network storage controllers. Furthermore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Arakawa's invention with Kodama's invention by adding Arakawa's snapshot module to Kodama's storage controller to provide backup and recovery capabilities for protecting Kodama's storage system from unexpected storage faults such as power-loss and drive failure. (Arakama, column 1, lines 15-24)

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Sun whose telephone number is (571) 272-2675. The examiner can normally be reached on M-F, 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571) 272-2675. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS

8/1/05


TAMARA PEYTON
PRIMARY EXAMINER